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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,064	12/21/2001	Satoshi Seo	12732-087001	8559
26171	7590	06/15/2006	EXAMINER	
FISH & RICHARDSON P.C.			THOMPSON, CAMIE S	
P.O. BOX 1022			ART UNIT	PAPER NUMBER
MINNEAPOLIS, MN 55440-1022			1774	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/026,064		SEO ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Camie S. Thompson		1774	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 4/7/06.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7,9-12,25,27-30,42,44-54,56-66,68-114,118,121 and 125-128 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9-12,25,27-30,42,44-54,56-66,68-114,118-121 and 125-128 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/7/06</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 7, 2006 has been entered.
2. Applicant's amendment and accompanying remarks filed April 7, 2006 have been acknowledged.
3. Examiner acknowledges amended claims 1 and 7.
4. The rejection of claims 1, 3-7 and 9-12 under 35 U.S.C. 112, second paragraph as being indefinite is withdrawn due to applicant's amended claims 1 and 7.

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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6. Claims 1, 3-7, 9-12, 25, 27-30, 42, 44-54, 56-66, 68-114, 118-121 and 125-128 are rejected under 35 U.S.C. 102(e) as being anticipated by Aziz et al., U.S. Patent Number 6,392,250.

Aziz discloses an organic light emitting device that includes a hole transporting region, an electron transporting region and a mixed region (see column 3, lines 1-10). Additionally, the reference discloses that the hole transporting region is comprised of a plurality of layers wherein the hole transport materials used to form the hole transport region can be copper phthalocyanine, aromatic tertiary amine and mixtures thereof (see column 8, line 19-65). The hole transport region has a thickness from about 5 nm to about 500 nm (see column 9, lines 26-36). Also, Aziz discloses that the electron transport region comprises a plurality of layers wherein the electron transport materials used to form the electron transport region can be 8-hydroxyquinoline, oxadiazole metal chelates and metal thioxinoid (see column 9, line 38-column 10, line 45). It is disclosed in column 9, line 34-59 of the Aziz reference that the mixed region can comprise from about 10 wt% to about 90 wt% of the transport material and 90 wt% to about 10 wt% of the electron transport material. Also, the reference discloses that the thickness of the mixed region was from about 10 nm to about 200 nm (see column 12, lines 5-20). Column 10, lines 53-60 of the reference discloses that the electron transport region has a thickness ranging from about 5 nm to about 500 nm. The mixed region contains at least one dopant that can include organometallic compounds, phosphorescent compounds (exhibiting a triplet excitation) and fluorescent dyes. The plurality of layers in the hole transport region can include a hole blocking layer. The multiple layers are varied in mixing ratios. When two layers are present, the concentration of the first organic compound decreases in the region closes to the second organic compound layer;

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therefore, disclosing the use of a concentration gradient (see column 12, lines 45-56). The mixed region contains multiple layers wherein at least one of the layers includes a separate light emitting compound. Further additional mixed region layers exist between the light emitting layer and the hole transport layer. The use of a dopant in the light emitting layer is disclosed in the reference. Therefore, the difference in energy between the highest occupied molecular orbital and the lowest unoccupied molecular orbital of the first compound is smaller than the difference in energy between the highest occupied molecular orbital and the lowest unoccupied molecular orbital of the second and third organic compounds.

### ***Double Patenting***

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

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Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 25, 27-30, 42, 44-54, 56-66, 68-114, 118-121 and 125-128 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-148 of copending Application No. 10/060,427. Although the conflicting claims are not identical, they are not patentably distinct from each other because both applications recite an organic luminescent element comprising an anode; a cathode; an organic compound region that comprises a hole injection region, a hole transporting region, a luminescent region, an electron injection region and an electron transporting region. Also, both applications recite a mixed region in which both the hole transporting material and the electron transporting material are mixed and the mixed region is doped with a triplet light emitting material. The co-pending application does not specifically disclose a concentration gradient in the mixed region or the hole and electron mobility. However, the co-pending application does use the same materials as the in the present application. Therefore, it would have been obvious to one of ordinary skill in the art to have the concentration gradient of the material contained in the luminescent layer decreased toward the cathode from the anode and that the energy difference in the mixed region is larger for the blocking material than in the hole transporting and electron transporting material in order to have the power consumption low for the device and thereby increasing the life of the device. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

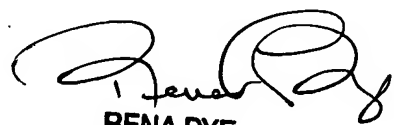
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***Response to Arguments***

9. Applicant's arguments with respect to all pending claims have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Camie S. Thompson whose telephone number is (571) 272-1530. The examiner can normally be reached on Monday through Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena L Dye, can be reached at (571) 272-3186. The fax phone number for the Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
RENA DYE  
SUPERVISORY PATENT EXAMINER  
A.U. 1774 6/12/07